

U.S. Patent Application Serial No. **10/646,921**
Amendment filed June 22, 2006
Reply to OA dated March 16, 2006

REMARKS

Claims 1-6 are presented for examination. Claims 1 and 6 have been amended in order to more particularly point out, and distinctly claim the subject matter to which the applicants regard as their invention.

The applicants respectfully submit that no new matter has been added. It is believed that this Amendment is fully responsive to the Office Action dated **March 16, 2006**.

The objective of the present invention is to provide a key input device comprising input keys adapted to show a character thereon when illuminated with a sufficient amount of light, but not permit the interior structure to be seen through the body of the input key when the light source is turned off. (Specification, p.2, lines 8-14). Accordingly, claims 1-6 define a key input device comprising a plurality of input keys having a body of transparent resin; a light blocking film formed over a front surface of the input keys; the light blocking film being partly cut out to form a light transmitting pattern representing a key identification symbol; a light source positioned below the input keys so that a light is illuminated directly onto the rear surface of the input keys; and, a semitransparent screen formed on the rear surface of the input keys in an area to be illuminated with the light source.

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Claims 1-6 are rejected under 35 USC 103(a) as being unpatentable over Inubushi, et al. (U.S. Patent No. 6,148,075) in view of Kenmochi (U.S. Patent No. 6,084,190) in further view of Chan, et al. (U.S. Patent No. 6,765,503).

Inubushi discloses an illuminated key body comprising a keypad having input keys composed of transparent silicone rubber material mixed with white particles and an electroluminescent light (EL) located below the keypad so that a light is projected to the outside through the keypad.

The present invention is patentably distinct from **Inubushi**'s disclosure because, contrary to amended claim 1 wherein a light blocking film blocks out all light and, therefore, a pattern must be cut out from the light blocking film to let light pass through the input key, the light blocking film (matte coating) disclosed in **Inubushi** does not actually block out *all* light. The invention of **Inubushi** is directed toward achieving two aims: (1) to provide input keys having sufficient transparency to allow *white* light produced by the EL to pass through the input keys when the EL is operative; and, (2) "a means for attenuating reflected light from the [EL] while it is inoperative." The Office Action asserts that the key body of **Inubushi** is provided with a light blocking film, and cites col. 6, lines 7-10, of **Inubushi** as support. However, the cited section discloses that a light blocking film (matte coating) applied on the "entire area of the top of each" input keys (key buttons) prevents an "external light incident onto the EL through the key buttons and reflected off the EL, from being projected to the outside as the *pink* light." (**Inubushi**, col.6, lines 8-10) (emphasis added).

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In other words, in the invention of **Inubushi**, the light blocking film merely blocks out *pink* light, which is external light reflected off the EL, not *white* light, which is internal light produced by the EL. **Inubushi** fails to teach a light blocking film which blocks out *all* light. On the other hand, in the present invention recited in amended claim 1, the light blocking film blocks all light and, therefore, a pattern is cut out from the light blocking film in order to allow light to pass through. In fact, amended claim 1 distinguishes the light blocking film, which blocks all light, from a semitransparent screen, which only partly blocks out light.

Additionally, the Office Action asserts that **Inubushi** discloses input keys having a semitransparent screen formed over an area of a rear surface of the input keys to be illuminated, and refers to screen (18) as support. However, col. 6, lines 21-23, of **Inubushi** describes this semitransparent screen (18) as being “laminated on a surface of the *EL*,” not formed on a rear surface of *input keys*. Please see Fig. 5 of **Inubushi** which further describes the semitransparent screen (18) as being applied on a surface of the EL, and not on a rear surface of input keys (4).

The Office Action concedes that **Inubushi** fails to teach a light blocking film formed over a front surface of input keys having light transmitting pattern cut therefrom. **Kenmochi** is cited for the disclosure of “a key top surface 2 comprising a light blocking film 4 (printed pattern) with a partial light transmitting reflecting layer 4a on the key top 2,” and refers to col.5, lines 13-51 as support. (Office Action, p.3, lines 6-8). However, the cited section of **Kenmochi** does not teach a light blocking film formed over a front surface of input keys having light transmitting pattern cut

therefrom. In fact, the cited section discloses that a printed pattern (4) is formed on the partial light transmitting layer (4a) by the application of two layers of coating: chromatic solid printing (4b) and black opaque membrane (4c). In particular, **Kenmochi** teaches that a pattern can be formed by applying the chromatic solid printing layer (4b) in the shape of a pattern, or the black opaque membrane (4c) in the shape of a pattern. However, unlike the claimed invention, in the invention of **Kenmochi** no pattern is *cut out* from a light blocking film in order to allow light to pass through. On this point, the Office Action asserts that **Kenmochi** teaches an illumination key having a laser etched pattern for reduction of manufacturing costs. In fact, the invention of **Kenmochi** is specifically directed toward “[manufacturing] a printed pattern *without* laser etching.” (**Kenmochi**, col.1, lines 64-65) (emphasis added). In regards to a laser etched pattern, **Kenmochi** discloses that, in the prior art, a pattern is “formed [by laser etching] *in the surface* of the key top,” not cut from a *light blocking film* formed over the surface of the input keys. (**Kenmochi**, col.1, lines 24-25) (emphasis added).

The Office Action concedes that **Kenmochi** and **Inubushi** fail to teach a light source EL which illuminates light directly onto a rear surface of the input keys. **Chan** is cited for the disclosure of a computer keyboard being illuminated by a light located directly under a translucent layer formed under a key cap. However, the translucent layer disclosed in **Chan** refers to a translucent base plate (8), which is located *between* input keys, not *on a rear surface of* or *under* input keys. (**Chan**, Fig. 3; col. 4, lines 4-12; col. 6, lines 60-67).

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Kenmochi, Inubushi, and Chan in combination fail to teach or suggest the present invention recited in claims 1-6 because the references do not disclose a key input device comprising input keys having a light blocking film being formed over a front surface of the input keys wherein a pattern is cut out from the light blocking film in order to allow light to pass through; or a light source being positioned below the input keys so that a light is illuminated directly onto the rear surface of the input keys.

In light of the reasons discussed above, it is respectfully requested that this rejection be reconsidered and withdrawn.

In view of the aforementioned amendments and accompanying remarks, claims 1-6, as amended, are in condition for allowance, which action, at an early date, is requested.

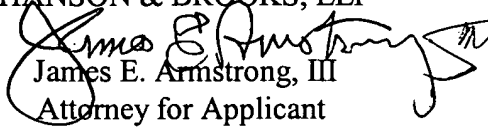
If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact the applicants undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, the applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

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Respectfully submitted,

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